

CLAIM AMENDMENTS

Please amend claims 1 and 33 as follows.

1. (Currently Amended) A method, comprising:

determining first properties of a metal oxide film to be disposed on a silicon substrate surface, the first properties of the metal oxide film to be determined by an interface between the silicon substrate surface and the metal oxide film;

establishing first atomic layer deposition (ALD) conditions for depositing [[a]] the metal oxide film having the first properties on [[a]] the silicon substrate surface;

growing at least one first monolayer of the metal oxide film having the first properties using the first ALD conditions, the first monolayer having first properties;

determining second properties of the metal oxide film to be disposed on the at least one monolayer, the second properties of the metal oxide film to be determined by a bulk portion of the metal oxide film, the second properties being different from the first properties;

establishing subsequent ALD conditions for depositing the metal oxide film having the second properties on the at least one monolayer; and

growing at least one subsequent monolayer of the metal oxide film on the first monolayers using the subsequent ALD conditions.

2. (Previously Presented) The method of claim 1, wherein establishing the first ALD conditions comprises establishing a first ALD reactor temperature.

3. (Previously Presented) The method of claim 2, wherein establishing the subsequent ALD conditions comprises establishing at least one subsequent ALD reactor temperature different from the first ALD reactor temperature.

4. (Previously Presented) The method of claim 1, wherein establishing the first ALD conditions comprises:

establishing a first flow rate for a first reactant; and

establishing a first flow rate for a second reactant.

5. (Previously Presented) The method of claim 4, wherein establishing the subsequent ALD conditions comprises establishing at least one subsequent flow rate for the first reactant different from the first flow rate for the first reactant.

Claims 6-24. (Canceled)

25. (Previously Presented) The method of claim 5, wherein establishing the subsequent ALD conditions comprises establishing at least one subsequent flow rate for the second reactant different from the first flow rate for the second reactant.

26. (Previously Presented) The method of claim 1, wherein establishing the first ALD conditions comprises establishing a first purge gas flow rate.

27. (Previously Presented) The method of claim 26, wherein establishing the subsequent ALD conditions comprises establishing at least one subsequent purge gas flow rate different from the first purge gas flow rate.

28. (Previously Presented) The method of claim 1, wherein establishing the first ALD conditions comprises establishing a first reactor pressure.

29. (Previously Presented) The method of claim 28, wherein establishing the subsequent ALD conditions comprises establishing at least one subsequent reactor pressure different from the first reactor pressure.

30. (Previously Presented) The method of claim 1, wherein establishing the first ALD conditions comprises establishing a first number of cycles to run.

31. (Previously Presented) The method of claim 30, wherein establishing the subsequent ALD conditions comprises establishing at least one subsequent number of cycles to run different from the first number of cycles to run.

32. (Previously Presented) The method of claim 1, wherein growing the at least one subsequent monolayer of the film on the first monolayers using the subsequent ALD conditions comprises growing the at least one subsequent monolayer having second properties different from the first properties.

33. (Currently Amended) A method, comprising:

determining first properties of a metal oxide film to be disposed on a silicon substrate surface, the first properties of the metal oxide film to be determined by an interface between the silicon substrate surface and the metal oxide film;

establishing first atomic layer deposition (ALD) conditions for depositing [[a]] the metal oxide film having the first properties on [[a]] the silicon substrate surface;

running a first set of cycles in a reactor having the silicon substrate positioned therein using the first ALD conditions to grow at least one first monolayer of the metal oxide film, the at least one first monolayer having the first properties;

determining subsequent properties of the metal oxide film to be disposed on the at least one monolayer, the subsequent properties of the metal oxide film to be determined by a bulk portion of the metal oxide film, the second properties being different from the first properties;

establishing subsequent ALD conditions for depositing the metal oxide film having the subsequent properties on the at least one monolayer; and

running a subsequent set of cycles in the reactor using the subsequent ALD conditions to grow at least one subsequent monolayer of the metal oxide film, the at least one subsequent monolayer having subsequent properties different from the first properties.

34. (Previously Presented) The method of claim 33, further comprising:

disposing a carrier gas in the reactor;

pulsing the reactor with a first reactant at a first flow rate;

purging the reactor of the first reactant using the carrier gas;

pulsing the reactor with a second reactant;

purging the reactor of the second reactant using the carrier gas; and

pulsing the reactor with the first reactant at second first flow rate different from the first reactant first flow rate.

35. (Previously Presented) The method of claim 33, further comprising:
disposing a carrier gas in the reactor;
pulsing the reactor with a first reactant;
purging the reactor of the first reactant using the carrier gas;
pulsing the reactor with a second reactant at a first flow rate;
purging the reactor of the second reactant using the carrier gas;
pulsing the reactor with the first reactant;
purging the reactor of the first reactant using the carrier gas; and
pulsing the reactor with the second reactant at second first flow rate different from the
second reactant first flow rate.
36. (Previously Presented) The method of claim 33, further comprising:
establishing a first temperature for the reactor;
disposing a carrier gas in the reactor;
pulsing the reactor with a first reactant;
purging the reactor of the first reactant using the carrier gas;
pulsing the reactor with a second reactant;
purging the reactor of the second reactant using the carrier gas; and
establishing a second temperature for the reactor different from the first temperature.
37. (Previously Presented) The method of claim 36, further comprising:
pulsing the reactor with the first reactant;
purging the reactor of the first reactant using the carrier gas; and
pulsing the reactor with the second reactant.

38. (Previously Presented) The method of claim 33, further comprising:
- establishing a first pressure for the reactor;
 - disposing a carrier gas in the reactor;
 - pulsing the reactor with a first reactant;
 - purging the reactor of the first reactant using the carrier gas;
 - pulsing the reactor with a second reactant;
 - purging the reactor of the second reactant using the carrier gas; and
 - establishing a second pressure for the reactor different from the first temperature.